



Naval Research Laboratory



The Navy and Marine Corps Corporate Laboratory

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Establishment of NRL



THOMAS A. EDISON

"GOVERNMENT SHOULD MAINTAIN
A GREAT RESEARCH LABORATORY TO
DEVELOP GUNS, NEW EXPLOSIVES AND
ALL THE TECHNIQUE OF MILITARY AND
NAVAL PROGRESSION WITHOUT ANY
VAST EXPENSE."

THOMAS A. EDISON,
THE NEW YORK TIMES MAGAZINE
SUNDAY, MAY 30, 1915

A WORLD-CLASS LABORATORY

- Idea followed the sinking of the Lusitania in 1915
- Secretary Josephus Daniels Established Naval Consulting Board with Edison Chair, meeting October 7, 1915
- August 29, 1916 Congress appropriates funds to establish the Lab
- Delayed by WW-I, Assistant Secretary of the Navy, Theodore Roosevelt, Jr. Commissions the Lab at Bellevue site on July 2, 1923

Navy and Marine Corps Corporate Laboratory



NRL Mission

- To conduct a **broadly based multidisciplinary program** of scientific research and advanced technological development directed toward maritime applications of new and improved materials, techniques, equipment, systems and ocean, atmospheric, and space sciences and related technologies.
- Primary in-house research for the physical, engineering, space, and environmental sciences
- Broadly based applied research and advanced technology development program in **response to identified and anticipated Navy and Marine Corps needs**
- Broad multidisciplinary support to the Naval Warfare Centers
- Space & space systems technology development & support
- Designated as the **Navy's corporate laboratory** by SECNAV 1991



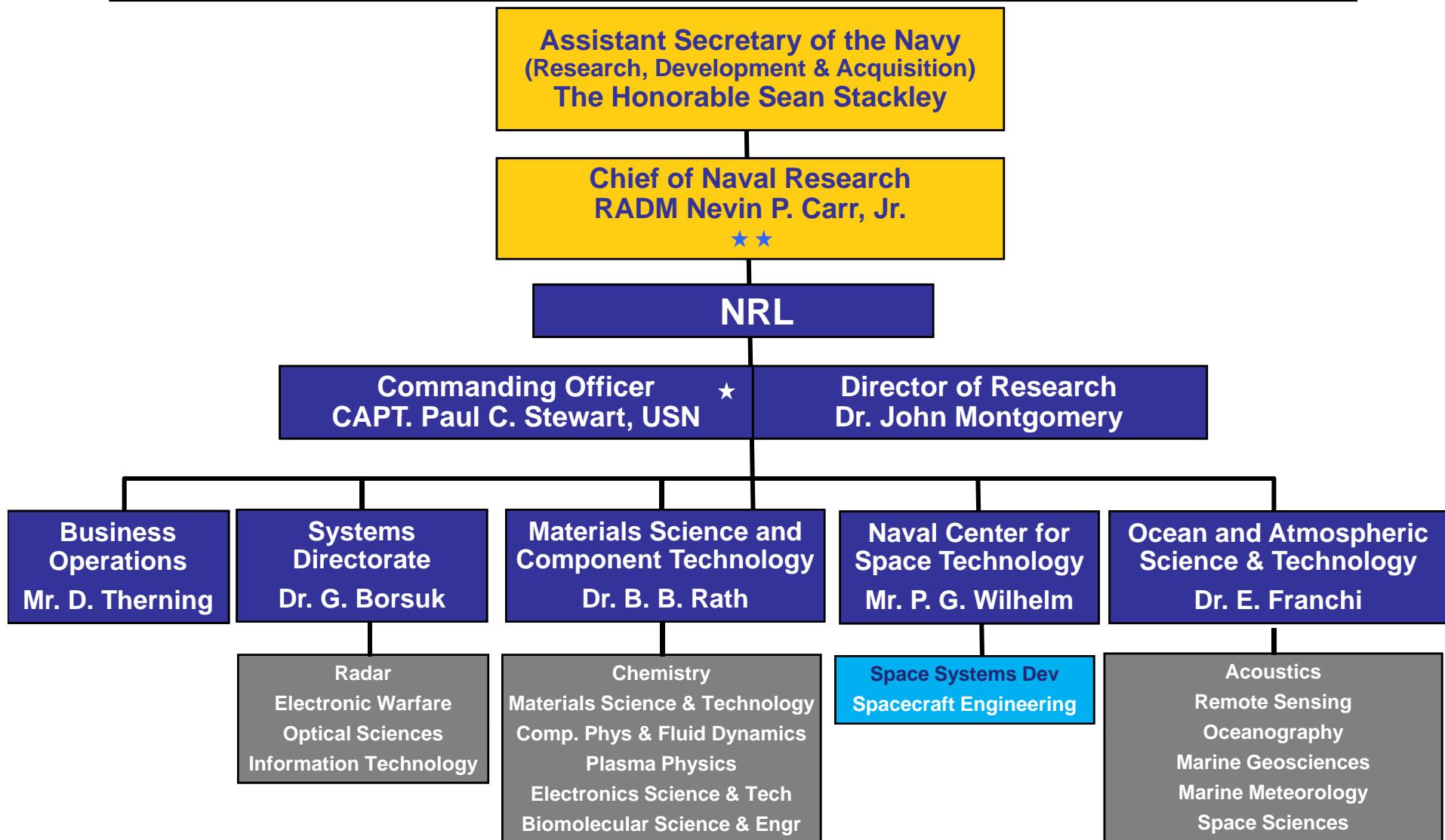
NRL: The DoN's Corporate Laboratory

Lines of Business

- Sensors, Electronics and Electronic Warfare
 - Materials/Processes
 - Battlespace Environments
 - Undersea Warfare
 - Information Systems Technology
 - Space Platforms
-
- Technology Transfer



Naval Research Laboratory's Organizational Relationships





Naval Research Laboratory

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MONTEREY, CA



BAY ST. LOUIS, MS
John C. Stennis Space Center



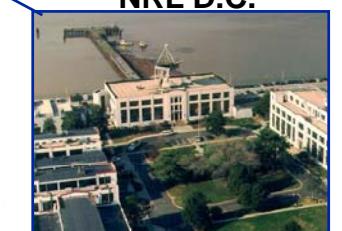
MOBILE, AL
Ex-USS Shadwell



KEY WEST
Marine Corrosion
Facility



PATUXENT RIVER
VXS-1 Squadron



NRL D.C.

Chesapeake Bay Div
Tilghman Is.
Midway Res Ctr
Blossom Point
Pomonkey

* Additional sites
based on sponsors



DC Area Field Sites



Space Technology



POTOMAC RIVER

EW Warfare

CHESAPEAKE BAY



CHESAPEAKE
BAY DET.

BRANDYWINE



TILGHMAN
ISLAND

VXS-1



POMONKEY



PATUXENT NAS



Key Capabilities of Remote Sites

Monterey:

- Weather model development
- Forecasting
- Co-located with Fleet Numerical

Stennis :

- Ocean modeling and prediction
- Oceanographic research
- Co-located with NAVOCEANO

Mobile Bay:

- ex-USS Shadwell
- Shipboard firefighting research

Key West:

- Marine corrosion research

Chesapeake Bay Division,

Tilghman Island:

- Electronic Warfare Development
- Microwave Ocean Environment Surrogate

MRC, Blossom Point, Pomonkey:

- Spacecraft testing
- Calibration
- Control and Operations



Scientific Development Squadron ONE (VXS-1)

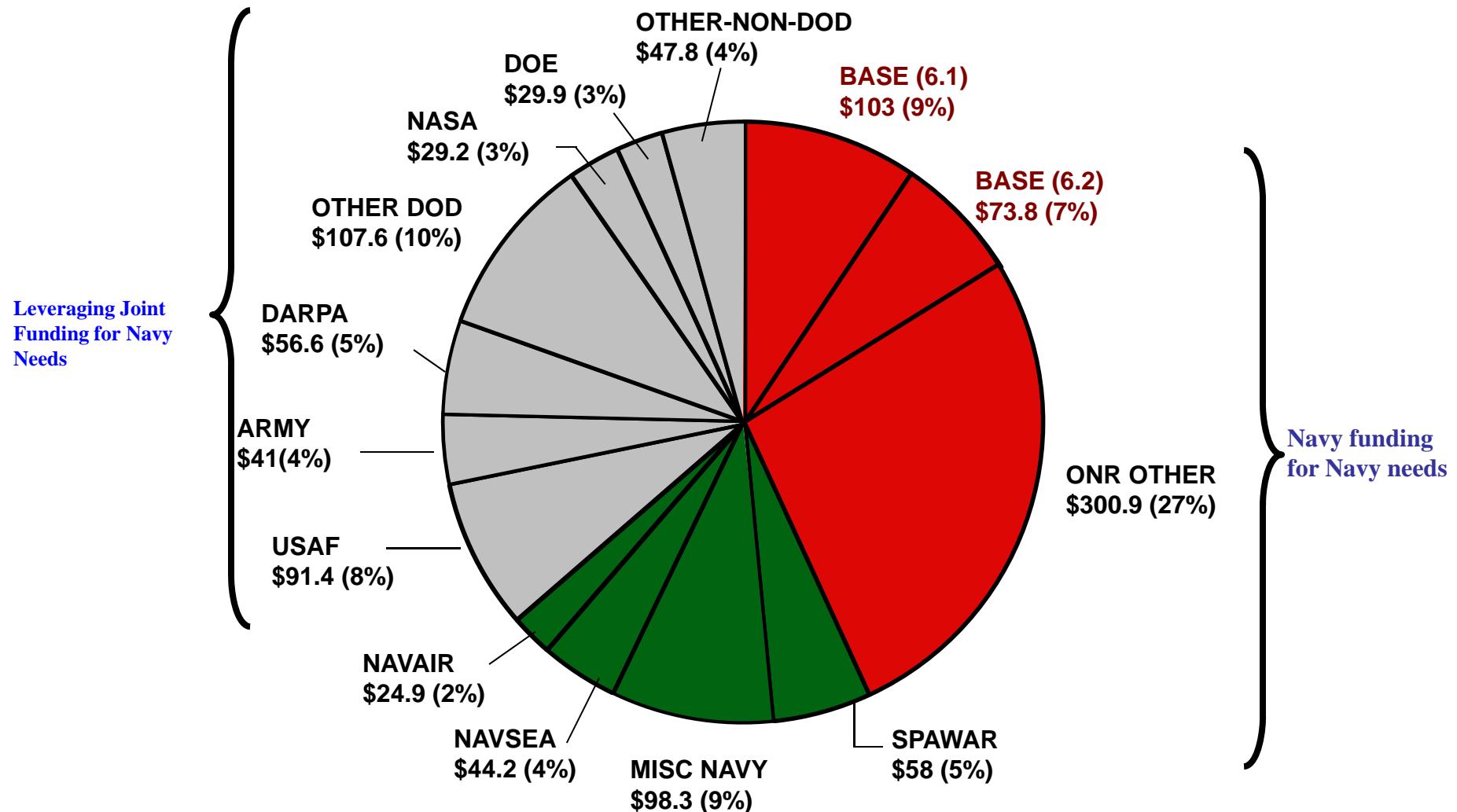


- Provides airborne research capability to NRL
- Sensor and system test bed, airborne surrogate
- Worldwide deployable
- **5** Aircraft
 - **2 Research Modified NP-3D**
 - **1 AEW Rotodome NP-3D**
 - **2 Research Modified RC-12**
- **12** Officers, **76** Enlisted, **4** Civilians





SPONSORS FY08 COSTS TOTAL \$1,106.6 MILLION





NRL S&T Base Program

\$105.3M 6.1, \$73.1M 6.2 in FY09

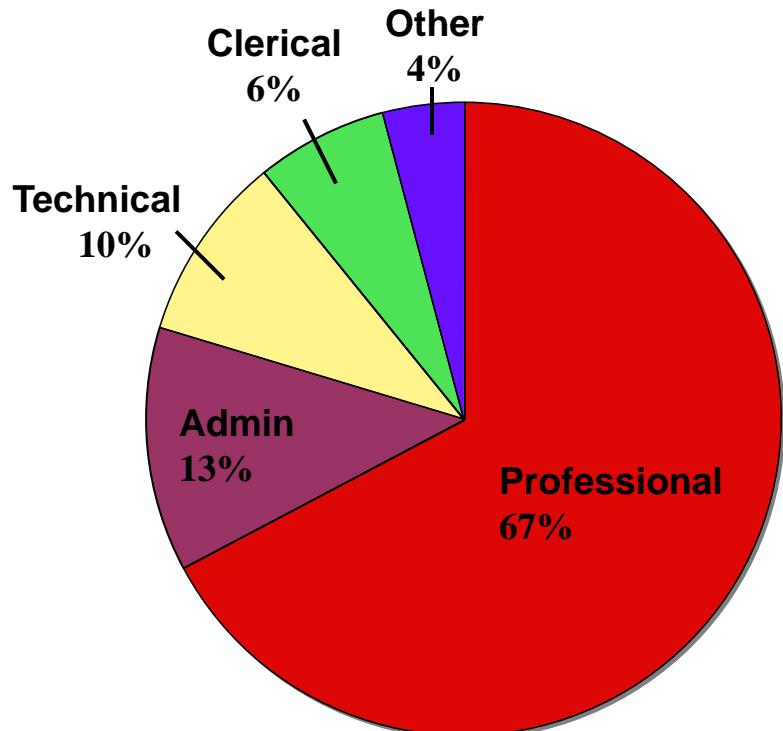
- IN-HOUSE BASIC AND APPLIED RESEARCH FOR THE PHYSICAL, ENGINEERING, SPACE, AND ENVIRONMENTAL SCIENCES
- RESULTS TO ADVANCE NAVAL SYSTEMS AND CAPABILITIES





NRL PERSONNEL FY 08 (FTP Only)

TOTAL 2168 (WG INCLUDED)
BACHELOR 508
MASTER 312
DOCTORATE 732



SCIENTISTS/ENGINEERS: 1470

PHYSICISTS	365
ELECTRONICS ENGINEERS	333
*OTHER	337
CHEMISTS	88
COMPUTER SCIENTISTS	125
MECHANICAL ENGINEERS	60
ASTRONOMERS	33
AEROSPACE ENGINEERS	54
GEN PHYS SCIENTISTS	38
MATHEMATICIANS	26
METALLURGISTS	11

*(other includes: Biologists, Microbiologists, Chemical, General Materials, Electrical and Computer Engineers, Meteorologists and Oceanographers)



World Class Science

(Linkage Between U.S. Scientific Research and Patents)

Top Ten U.S. Institutions in Rank Order

Physics Papers

1. AT&T Bell Labs
2. IBM Corporation
3. Stanford University
4. Bellcore
5. **Naval Research Laboratory**
6. Lincoln Labs
7. MIT
8. Univ. of Illinois
9. UC Santa Barbara
10. Cornell University

Engineering & Tech. Papers

1. AT&T Bell Labs
2. IBM Corporation
3. Univ. of CA Berkeley
4. MIT
5. Stanford University
6. General Electric Company
7. Texas Instruments
8. **Naval Research Laboratory**
9. NC State University
10. Bellcore



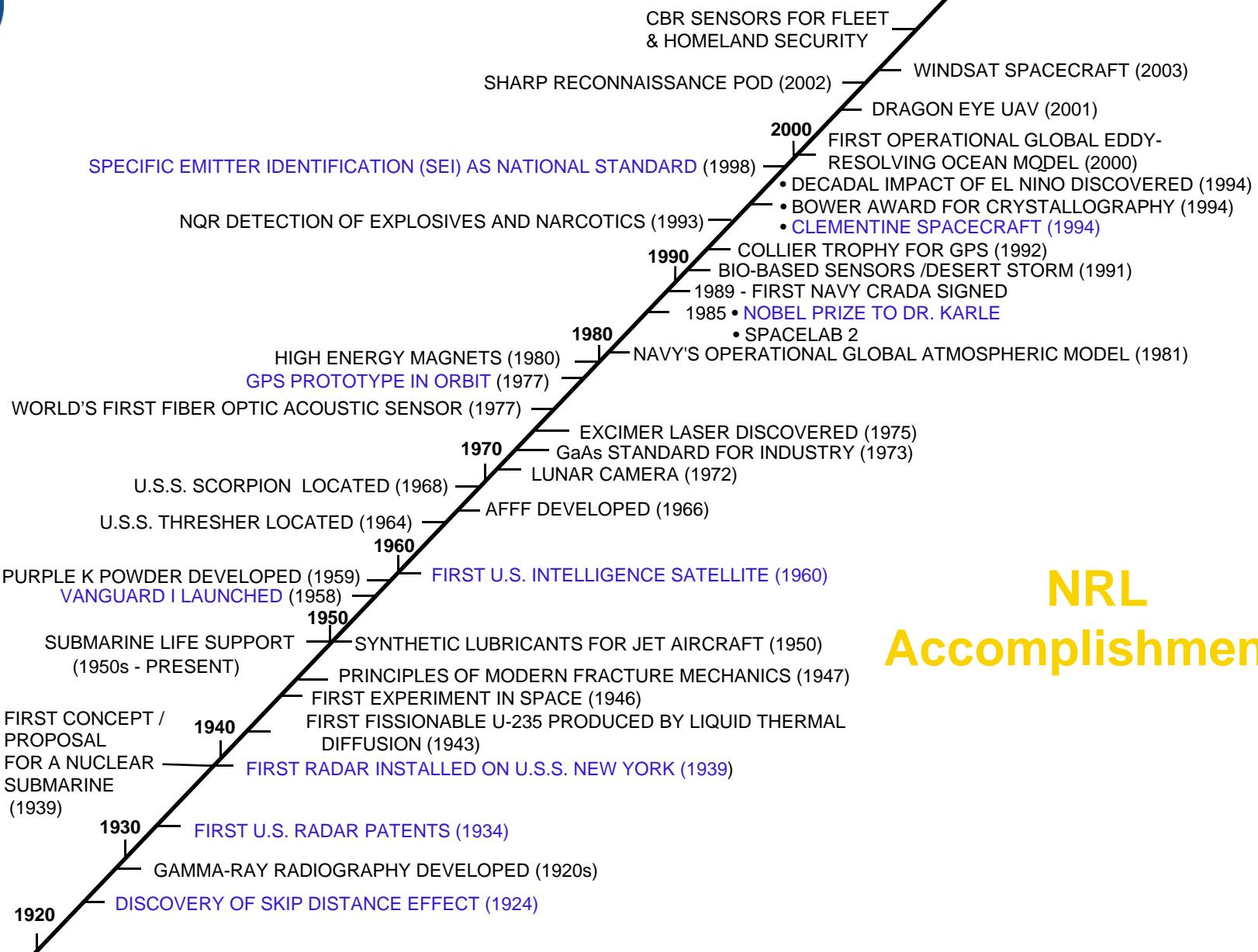
High Value to DoN

In BRAC 05, of **617** DoD technical activities at **282** military installations:

- NRL was ranked **#1** for Military Value in **6** of **13** S&T technical areas and in top 10 in remaining 7. No other DoD center ranked as **#1** in more than one S&T technical area.



Naval Research Laboratory



NRL
Accomplishments



Naval Research Laboratory

Questions?

The Navy and Marine Corps Corporate Laboratory